

that between the anterior tip of snout and origin of anal fin 2.2 in standard length.

Colour in preserved specimen is uniformly dull brown on body with the caudal black, dorsal, anal and pectoral whitish. The six vertical dark caudal bands seen in the male (*vide* Bleeker's figure) are absent in our specimen and probably well marked only in the male.

A skinny prolongation on the throat extending as far as the anal base (*vide* Bleeker's figure) is a secondary sexual character of the male.

Distribution. From east coast of India through Indo-Australian archipelago to Philippines and to Queensland and West Australia.

ZOOLOGICAL SURVEY OF INDIA,
CALCUTTA,
June 20, 1973.

A. G. K. MENON
T. K. CHATTERJEE

REFERENCES

- BLEEKER, P. (1865): Atlas Ichthyol. Indes. Orient. Nepal. 5, pp. 1-152, pls. 1-231.
DAY, F. (1878): Fishes of India, pt. 4, pp. 553-778, pls. 134-195, London.

15. ON THE OCCURRENCE AND BREEDING OF *LABEO ROHITA* (HAMILTON) IN A SECTION OF NARBADA RIVER IN GUJARAT STATE

Labeo rohita (Hamilton) is widely cultured all over India and is the most esteemed fish in Bengal and Orissa. The natural distribution of this fish, as recorded by Day (1878), is from Sind and the Punjab along upper India and Assam as far as Burma, though it is now known to occur in Peninsular India in the Hirakud stretch of the Mahanadi Job *et al.* 1955), the Godavari river system (Alikunhi & Chaudhuri 1951) and the lower reaches of Godavari and Krishna rivers (David 1963). Of the two important westerly flowing rivers of Peninsular India, this fish is not known to occur in Narbada (Anon. 1956; Hora & Nair 1941; and Rajan & Kaushik 1958), though recently this fish has been recorded from Tapti, where it was accidently transplanted (Karamchandani & Pisolkar 1967). The nonavailability of this species in Narbada was also indicated by the enquiries made from fishermen during fishery survey of 1958-59 and the observations on the capture fishery of the entire stretch of the river in Madhya Pradesh and Gujarat State (1958-1966).

While exploring new fish seed resources in the lower stretches of

Narbada river in Gujarat State during south-west monsoon season of the years 1959 to 1964, the occurrence and breeding of Rohu were observed in a section of Narbada river during 1960 monsoon season. The evidence thereof are reported in the present note.

The representative samples of carp spawn collected at Malsar, Poicha and Mangrol centres from Narbada river from 30.vi.1960 to 29.ix.1960 were reared in the field laboratory and the local nursery tanks, with a view to ascertaining the quality of Narbada seed. The percentage composition of rohu, catla, mrigal and the minor carps in the Narbada seed collected at various centres was found to be as follows:—

Centres	Percentage composition of			
	Rohu	Catla	Mrigal	Minor carps
Mangrol	4.97	67.7	11.18	16.15
Malsar	4.0	65.0	25.0	6.0
Poicha	—	12.1	66.3	21.6

Since the seasonal tanks at these centres were stocked exclusively with Narbada fish seed, these observations have conclusively indicated that Rohu not only occurs in Narbada river but also breeds successfully during monsoon season in the lower reaches of this river above Mangrol. These observations are particularly significant in view of the belief that rohu does not occur in Narbada (Anon. 1956).

The occurrence of rohu in Narbada river, as reported above, appears to be the result of accidental stocking. Recently, Karamchandani & Pisolkar (1967) reported accidental transplantation of catla and rohu into Tapti river from Vyara tank through Mindhola river. The culture of major carps namely catla, rohu, mrigal and kalbasu in large tanks all over the country, by transplanting their seed from natural habitats, is an age old practice. The occurrence of rohu in some of the major rivers of Peninsular India (Job *et al.* 1955; Alikunhi & Chaudhuri 1951; David 1963, and Karamchandani & Pisolkar 1967), well outside the range of its natural distribution (Day 1878), seems to point out that the involuntary and accidental transplantation of major carps from over-flooded stocking tanks during monsoon floods directly into the rivers or through their tributaries is a common feature and perhaps has been mainly responsible for their subsequent wide distribution in the country. In the present case, the overflowing of stocked tanks during monsoon seasons must be the reason for the presence of rohu in Narbada river.

Karamchandani *et al.* (1967) have observed that the percentage of major carps in the commercial catches of Narbada river is extremely poor. The occurrence and the breeding of rohu in Narbada river have

conclusively indicated that this fish is capable of thriving in Narbada river. Extensive stocking of rohu and other major carp species in Narbada river appears to be desirable with a view to augment their fisheries as well as enrich the resources of the quality fish seed of this river.

ACKNOWLEDGEMENTS

We are grateful to Dr. V. G. Jhingran, Director for his interest in this work and to Shri J. C. Malhotra, Fishery Scientist, for going through the manuscript. Their grateful thanks are due to the Director, Zoological Survey of India, Calcutta, for confirming the identification.

NARBADA-TAPTI UNIT,
CENTRAL INLAND FISHERIES
RESEARCH INSTITUTE,
HOSHANGABAD (M.P.),
March 30, 1974.

S. J. KARAMCHANDANI¹
P. K. PANDIT²

REFERENCES

- ALIKUNHI, K. H. & CHAUDHURI, H. (1951): On the occurrence of *Labeo rohita* (Hamilton) in Godavari river system. *Sci. & Cult.*, 16 (II):527.
- ANONYMOUS (1956): Revised Report on Fisheries Extension work in Madhya Bharat. Bull. No. 3, Dept. of Fisheries, Govt. of Madhya Bharat, Gwalior, 14 p. (mimeo).
- DAVID, A. (1963): Studies on fish and fisheries of the Godavary and Krishna river system—Part I. *Proc. nat. Acad. Sci. India* (B) 33(2):263-286.
- DAY, F. (1878): *The Fishes of India*, London.
- HORA, S. L. & NAIR, K. K. (1941): Fishes of the satpura range, Hoshangabad District, Central Provinces. *Rec. Indian Mus.* 43(3):361-373.
- JOB, T. J., DAVID, A. & DAS, K. N. (1955): Fishes and fisheries of the Mahanadi in relation to the Hirakud Dam. *Indian J. Fish.*
- KARAMCHANDANI, S. J., DESAI, V. R., PISOLKAR, M. D. & BHATNAGAR, G. K. (1967): Biological investigations on fish and fisheries of Narbada river (1958-1966). *Bull. Centr. Inl. Fish. Inst., Barrackpore* No. 10, p. 40 (Mimeo).
- & PISOLKAR, M. D. (1967): Survey of the fish and fishery of the Tapti river. *Survey Rep. Centr. Inl. Fish. Res. Inst., Barrackpore*. No. 4, p. 49 (Mimeo).
- RAJAN, S. J. & KAUSHIK, D. K. (1958): *Boori* Narbada makes a good fish breeding sanctuary. *Indian Fmg.* 7(12):20-23.

Present address: ¹ Small Reservoirs Unit, Central Inland Fisheries Research Institute, Rewa (M.P.).

² Central Fisheries, Kakdwip P.O., Dist. 24 Parganas, West Bengal.